

(No Model.)

2 Sheets—Sheet 1.

M. GUETT.
ELECTRIC SWITCH.

No. 561,581.

Patented June 9, 1896.

Fig. 1

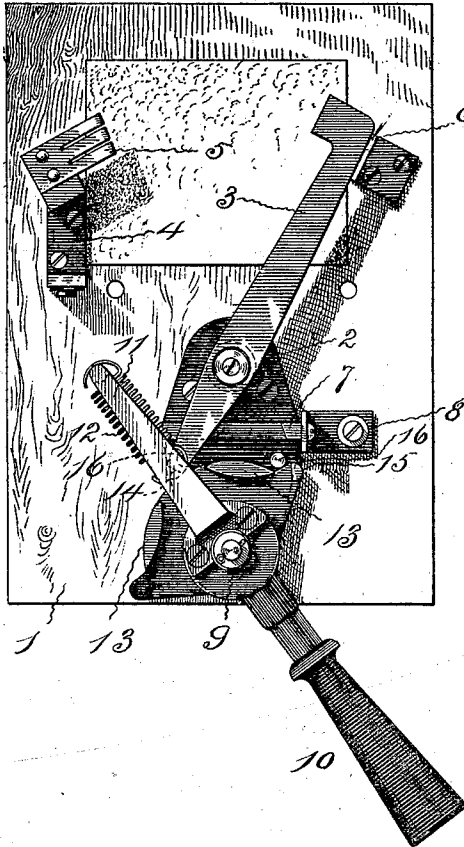
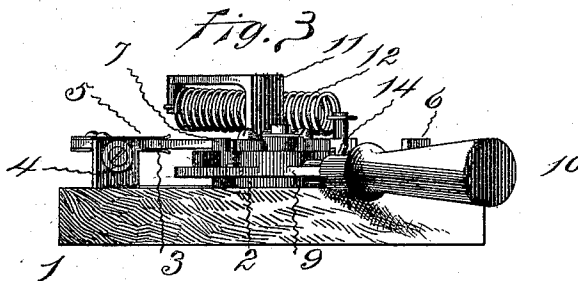
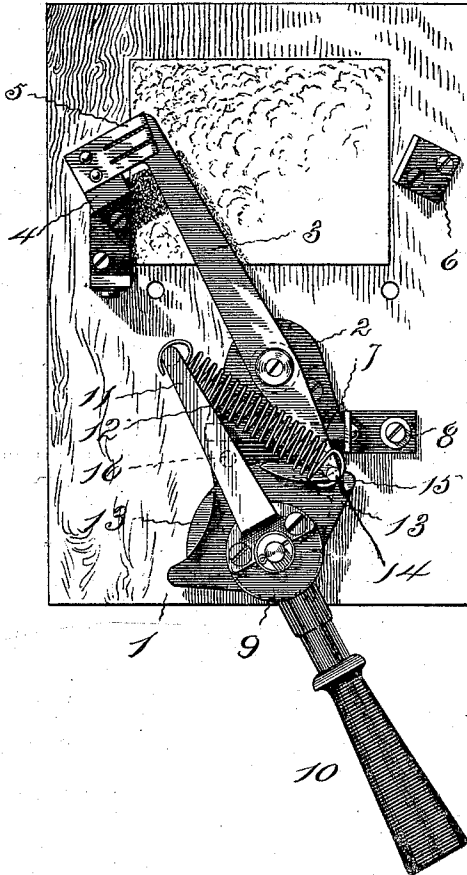


Fig. 2



Witnesses:

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E. J. Hyde.

Inventor:

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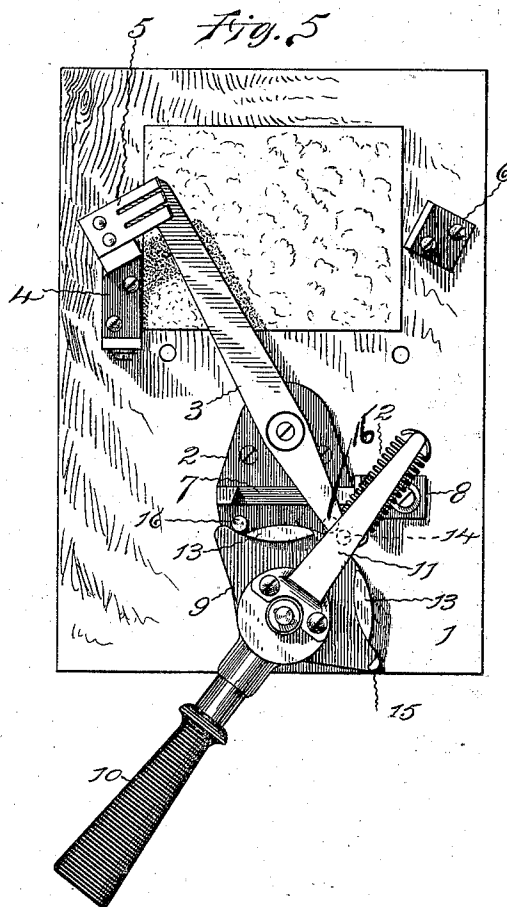
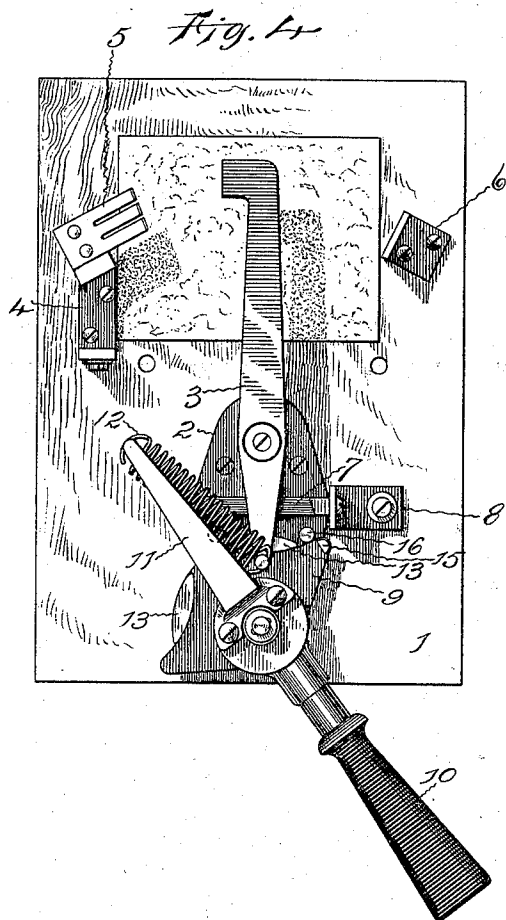
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C. E. Buckland.

E. J. Hyde.

Inventor:

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UNITED STATES PATENT OFFICE.

MONROE GUETT, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE HART & HEGEMAN MANUFACTURING COMPANY, OF SAME PLACE.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 561,581, dated June 9, 1896.

Application filed November 29, 1895. Serial No. 570,346. (No model.)

To all whom it may concern:

Be it known that I, MONROE GUETT, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

The invention relates to the class of snap-switches which are more particularly adapted and intended for opening and closing electric circuits in which a large quantity of current is used.

The object of the invention is to provide a simple and cheap snap-switch in which the movable contact-bar is held against movement until the throwing-spring has received considerable tension and is moved into correct position to give the proper pull so as to insure an exceedingly quick, strong and positive make-and-break movement of the contact-bar, whereby the simple switch may be employed in circuits intended to convey currents of large quantity or high pressure without danger of arcing, burning, or heating.

Referring to the accompanying drawings, Figure 1 is a plan of the switch, showing the position with the circuit open. Fig. 2 is a plan showing the position with the circuit closed and the handle moved a part of the distance required to make tense the throwing-spring and open the circuit. Fig. 3 is an edge view with the switch closed. Fig. 4 is a plan showing the position of the parts with the swinging lever-contact stopped midway of its travel when moving to open the circuit. Fig. 5 is a plan of the switch with the circuit closed.

In the views, 1 indicates the base, which may be made of wood or any suitable insulating material, of any desired size and outline. Upon this base is secured a bed-plate 2, usually of conducting metal, and held by a hinge or pivot to this bed-plate is the movable contact-bar 3, which is oscillated or swung to make or break contact with the stationary contact for closing or opening the circuit.

The stationary contact 4, of conducting material, is secured to the base and provided with a common wire clamping or binding screw, and also with spring contact arms or fingers 5, which are adapted to receive and grasp between them the blade of the movable

contact-bar when the bar is thrown toward them by the operating-spring. A stop 6 may be secured to the base for limiting the outward movement of the bar, if it is desired, and a wall or ledge 7, with stopping-lugs at the ends, may be formed across the metal bed for the guidance of the inner end of the contact-bar, if desired. A binding-screw for one of the circuit-wires may be connected with the metallic bed-plate, or, better, may be connected with a conducting-plate 8, which may be so attached to the base as to make contact with the bed-plate. The current passes from the circuit-wire through this contact-plate and the bed-plate into the movable bar, and when the bar is in contact with the spring-fingers the current passes through the spring-fingers and stationary contact-lug to the end of the other wire which is connected therewith.

Held to the bed-plate by a suitable pivot is a movable block 9, having a handle 10, by means of which the block may be freely rotated or oscillated. This block is provided with an arm 11, and connected between the end of this arm and the inner end of the movable contact-bar is a spring 12, that is made tense by the movement of the handle for throwing the movable contact-bar in opening or closing the circuit. Projecting outward from the base of the block 9 are lugs 13, and projecting inward from the inner end of the contact-bar is a stud 14. These lugs are so arranged and located that when the block is first moved to make tense the spring for throwing the contact-block the stud 14 on the bar makes contact with one of them, and this interference between the stud and the lug prevents the bar from being thrown until the block is moved so as to nearly reach the limit of its play and has made the spring very tense, and then the lug passes from the path of the stud, allowing the stud free movement behind it, so that the spring, which is now very tense, will move the contact-bar with an exceedingly quick and strong pull. These lugs on the block are so located, of course, that one temporarily interferes with the movement of the stud when the bar is in one position and the other interferes when the bar is in the other position, the stud making contact with the outer faces of the lugs and passing

back and between them when freed and the bar moves.

Projecting from the oscillating block near the end of one of the lugs is a stud 15, which stud is so located as to make contact with the stud projecting from the inner end of the contact-bar after it has reached the end of the adjacent temporary interfering lug. This stud 15 is provided to make contact with the stud 14, so as to push off the contact-bar and insure that it will start when the stud 14 reaches the end of the interfering lug should the spring-arms of the stationary contact so tightly grasp the blade of the movable contact as to hold it and prevent it from easily moving when the spring is made sufficiently tense to properly operate the switch. Pins 16 may be arranged on the bed-plate or base to properly limit the amount of movement of the block when it is oscillated by moving the handle, as when throwing the switch.

The construction is simple and cheap. The operation is positive, and the making and breaking movement of the oscillating contact-bar is very quick and strong, for the temporary interfering parts hold the bar against movement until the throwing-spring has reached a proper position and has been placed under strong tension and a quick break is insured, for after the spring has been given the proper tension and is in the proper position for the best pull the starting-stud gives the bar the proper push for commencing the ex-

ceedingly quick movement that is then given. This arrangement of the parts allows a very simple switch to be provided for use in connection with circuits in which a current is used of considerable quantity or high pressure without danger that the current will be broken or burning or heating when the contact is made, through improper contact.

I claim as my invention—

In combination in an electric switch, a base bearing a stationary pole adapted to be connected with one of the circuit-wires, a lever pivoted to the base so that one end will swing into and out of contact with the stationary pole and adapted to be connected with the other of the circuit-wires, a block pivoted to the base and having a handle projecting in one direction and an arm projecting in the opposite direction, a spring between the end of the arm projecting from the block and one end of the lever, this end of the lever having an inward-projecting stud and the block having a pair of outward-projecting lugs arranged to engage the stud and hold the lever against movement until the spring has reached the desired degree of tension for properly throwing the lever, substantially as specified.

MONROE GUETT.

Witnesses:

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HARRY R. WILLIAMS.